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(11) AU-B1-28,409/77

(12) PATENT SPECIFICATION
ABRIDGEMENT
(19) AU

| | | | | |
|------|-----------|---------|------|---------|
| (21) | 28,409/77 | 510,262 | (22) | 31.8.77 |
| (23) | 31.8.77 | | (24) | 31.8.77 |
| (43) | 8.3.79 | | (44) | 19.6.80 |

(51)² B65D 85/72 B65D 81/38 B65D 31/02 B65D 33/02
A47G 19/22 A45F 3/20

(54) Pouch usable as a cup

(75) Kimura, K.

(74) GH

| | | | |
|------|-----------|---------|---------|
| (56) | 74,551/74 | 57.1 | 57.41-0 |
| | 58,547/73 | 57.1 | |
| | 2,327/66 | 428,188 | 57.2 |

(57) Claim 1. A pouch comprising a pair of semi-rigid sheets bonded to one surface of a flexible sheet to form with the flexible sheet a respective pair of laminate portions on opposite sides of a transverse fold line defined in the flexible sheet, a portion of the flexible sheet on each side of the fold line being free of any bond with the semi-rigid sheet, the laminate portions being folded about the fold line so that they face each other, with the semi-rigid sheet being on the outside, and the adjacent side edge portions of the facing laminate portions being bonded together.

10262

FORM 1

Regulation 3

IN ACCEPTED AND
8/5/80

COMMONWEALTH OF AUSTRALIA

PATENTS ACT, 1952-1973

APPLICATION FOR A PATENT

I/~~we~~, KINICHI KIMURA

of 21-11, 3-chome, Akatsukashinmachi,
ITABASHI-KU, TOKYO JAPAN

hereby apply for the grant of a Patent for an invention
entitled
"A POUCH USABLE AS A CUP AND A METHOD OF PRODUCING THE
SAME"
which is described in the accompanying specification.

My/~~our~~ address for service is Messrs GRIFFITH, HASSEL & FRAZER,
Patent Attorneys, of 323 Castlereagh Street, SYDNEY, New South
Wales 2000, Commonwealth of Australia.

DATED this 30th day of August, , 1977.

KINICHI KIMURA
By his Patent Attorney

J.H.M.
of GRIFFITH, HASSEL & FRAZER
Fellows, Institute of Patent
Attorneys of Australia.

The Commissioner of Patents
Commonwealth of Australia

AUSTD
31 AUG 1977

Forms 7 and 8

COMMONWEALTH OF AUSTRALIA

Patents Act 1952-1962

DECLARATION IN SUPPORT OF A CONVENTION OR NON-CONVENTION
APPLICATION FOR A PATENT OR PATENT OF ADDITION

INSTRUCTIONS

- (a) Insert No. if available.
(b) Insert full name(s) of applicant(s).
(c) Insert title of invention.
(d) Insert full name(s) of declarant(s) who must be PERSON or PERSONS, NOT a corporate body. (See head note)
(e) Insert address(es) of declarant(s).
(f) Delete entirely if applicant is corporate body.
(g) Delete entirely if applicant is person or persons.

- (h) Delete entirely if Convention priority NOT claimed.

- (i) Insert country in which first basic application was made.

- (j) Insert date of first basic application.

- (k) Insert full name(s) of basic applicant(s).

- (l) Delete entirely if applicant(s) NOT inventor(s).

- (m) Insert full name(s) of actual inventor(s) if applicant(s) NOT inventor(s).

- (n) Insert address(es) of actual inventor(s) if applicant(s) NOT inventor(s).

- (o) Delete entirely if Convention priority NOT claimed.

- (p) Delete entirely if Convention priority NOT claimed.

- (q) Delete entirely if Convention priority NOT claimed.

- (r) Delete entirely if Convention priority NOT claimed.

- (s) Delete entirely if Convention priority NOT claimed.

- (t) Delete entirely if Convention priority NOT claimed.

- (u) Delete entirely if Convention priority NOT claimed.

- (v) Delete entirely if Convention priority NOT claimed.

- (w) Delete entirely if Convention priority NOT claimed.

- (x) Delete entirely if Convention priority NOT claimed.

- (y) Delete entirely if Convention priority NOT claimed.

- (z) Delete entirely if Convention priority NOT claimed.

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- (ax) Delete entirely if Convention priority NOT claimed.

In support of the application No. (a)
made by (b) KINICHI KIMURA

for a patent/~~patent of addition~~ for an invention entitled (c)
"A POUCH USABLE AS A CUP AND A METHOD OF PRODUCING
THE SAME"

I, (d) Kinichi Kimura

of (e) 21-11, 3-chome, Akatsukashinmachi,
Itabashi-ku, Tokyo, JAPAN

do solemnly and sincerely declare as follows:-

1. (f) I am/~~was~~ the applicant (s) for the patent/~~patent of addition~~.
~~1. (g) I am authorized by the abovementioned applicant for the patent/patent of addition to make this declaration on its behalf.~~

2. The basic application (s) as defined by Section 141 of the Act was/were made in the following country or countries on the following date (s) by the following applicant (s) namely:-

in (i) on (j) 19
by (k)
in (i) on (j) 19
by (k)
in (i) on (j) 19
by (k)

3. (l) I am/~~was~~ the actual inventor(s) of the invention.

3. (m)

of (n)
is/are the actual inventor (s) of the invention and the facts upon which the applicant (s) is/are entitled to make the application are as follows:-
-as regards entitlement under Section 34 of the Act:- (o)

-as regards entitlement under Part XVI of the Act:- (q)

4. The basic application (s) referred to in paragraph 2 of this Declaration was/were the first application (s) made in a Convention country in respect of the invention the subject of the application.

Declared at Tokyo, JAPAN

this 12th day of Oct. 19 77

(r) Kinichi Kimura

Kinichi Kimura

510262

COMMONWEALTH OF AUSTRALIA

Form 10

PATENTS ACT 1952-69

COMPLETE SPECIFICATION

(ORIGINAL)

FOR OFFICE USE :

Application Number :

Class

Int. Class

Lodged :

Complete Specification Lodged :

Accepted :

Published :

Priority :

Related Art .

REGISTERED
31 AUG 1977

Name of Applicant :

TO BE COMPLETED BY APPLICANT
KINICHI KIMURA

Address of Applicant:

21-11, 3-chome, Akatsukashinmachi,
Itabashi-ku, Tokyo, JAPAN

Actual Inventor:

The Applicant.

Address for Service:

Griffith, Hassel & Frazer,
323 Castlereagh St.,
SYDNEY N.S.W. 2000 AUSTRALIA

This document contains the
amendments made under
Section 40.

and is correct for printing.
28 MAY 1980

Complete Specification for the invention entitled:

"A POUCH USABLE AS A CUP AND A METHOD OF PRODUCING THE SAME"

The following statement is a full description of this invention, with the best method of performing
known to me/us:

010202

This invention relates to a pouch which can be filled with, for example, a powdered beverage and which can be opened by cutting one end thereof and used as a cup. The invention also relates to a method of making the pouch.

Recentl there has become widely used a pouch made of a synthetic resin material which is capable of standing firm on a flat plane when filled with food or the like. However such a pouch is unable to stand by itself when filled with a liquid and, in this respect differs from
10 one intended to act as a cup when a liquid such as water has been poured thereinto through an opening provided by cutting off the upper end portion thereof.

The known pouch mentioned above has a side wall and a base made of the same material or materials similar to each other. Thus, if made of a soft, flexible material, the side wall of the pouch is too soft to enable the pouch to be used as a cup, i.e. a structure capable of standing by itself when a liquid, such as water, has been poured thereinto. In addition, the base of the known pouch is prepared by
20 inwardly folding a lower end portion of a sheet of the material, resulting in a double wall base structure. It follows that if a powdered fruit juice or the like is sealed in the pouch some of it may enter the clearance between the superposed sheets of the base. This presents a difficulty in that, when a liquid is poured into the pouch, good mixing can not be achieved between the powder and the liquid.

The present invention, as will be described hereinafter in more detail with reference to preferred embodiments thereof, provides a pouch which has a single wall base structure, i.e. one free of overlapping sheets between which particles of food or the like can be entrapped, and is capable of standing by itself and of being used as a cup.

The invention provides in one aspect thereof a pouch comprising a pair of semi-rigid sheets bonded to one surface of a flexible sheet to form with the flexible sheet a respective pair of laminate portions on opposite sides of a transverse fold line defined in the flexible sheet, a portion of the flexible sheet on each side of the fold line being free of any bond with the semi rigid sheet, the laminate portions being folded about the fold line so that they face each other, with the semi-rigid sheets being on the outside, and the adjacent side edge portions of the facing laminate portions being bonded together.

The invention also provides, in a further aspect thereof a method of making a pouch comprising the steps of bonding a pair of semi rigid sheets to one surface of a flexible sheet to form with the flexible sheet a respective pair of laminate portions on opposite sides of a transverse fold line defined in the flexible sheet, a portion of the flexible sheet on each side of the fold line being free of any bond with the semi rigid sheets, folding the laminate portions about the fold line to form a folded article in which the laminate portions face each other and the semi rigid sheets are on the outside of the article, and bonding together the adjacent side edge portions of the facing laminate portions.

This invention can be more fully understood from the following detailed description when taken in conjunction with the accompanying drawings, in which:

Fig. 1 is a plan view showing a laminate used for making pouches according to one embodiment of this invention;

Fig. 2 is a cross sectional view taken along the line II-II of Fig. 1;

Fig. 3 is a cross sectional view of a blank for a single pouch, the blank being shown partly folded and viewed in the direction of the arrows III-III of Fig. 2;

Fig. 4 is a front view of a finished pouch;

Fig. 5 is an oblique view showing the pouch of Fig. 4 used as a cup; and

Fig. 6 is a front view of a pouch according to another embodiment of this invention.

Fig. 1 shows a laminate which is adapted to be cut/ along broken lines 7
10 into separate blanks for individual pouches. The laminate consists of a sheet 1 of semi-rigid material bonded to an underlying sheet 6 (Figs. 2 and 3) of relatively flexible material. For each blank, the sheet 1 is formed with an elongated central slit 2 and a pair of slits 3 and 4 extending parallel and adjacent to opposite edges thereof. The slits 2, 3 and 4 may be of equal length. Also, when an individual blank has been folded, as indicated by Fig. 3, to the form shown in Fig. 4, the slits 3 and 4 lie opposite each other on the respective outer sides of the folded blank. This provides a tear line for tearing
20 off the top of the finished blank.

The slit 2 effectively separates the semi-rigid material of each blank into a pair of semi-rigid sheets (see Fig. 3) which, in the finished pouch, define the outer walls of the pouch. Thus these sheets will hereinafter, for convenience, be referred to as the "outer sheets". The flexible sheet 6, which is folded about a transverse fold line which is substantially coextensive with the slit 2, forms an inner lining in the finished pouch. Thus this sheet will conveniently be referred to hereinafter as the "inner sheet".

Before bonding the semi-rigid and flexible sheets together, a portion of each outer sheet is coated with a silicone 5, the coated portion being in the form of an ellipse, the major axis of which is defined by the slit 2 as shown in Fig. 1. The inner sheet 6 (Fig. 2) which is made of a thermoplastic synthetic resin, for example, polyethylene, is thermally bonded to the partially coated side of the outer sheets so as to form a laminate therewith. In this case, bonding is prevented between the inner sheet 6 and the outer sheets 7 in the portions coated with the silicone.

As previously mentioned, the laminate is cut off along dotted lines 7,7 into a plurality of individual blanks. Each blank comprises a pair of laminate portions which are folded about the transverse fold line, i.e. along the slit 2, with the laminate portions facing each other and the inner sheet 6 is positioned inside the folded blank as shown in Fig. 3. The side edge portions of the folded blank are then thermally fused together, the fused portions extending at least from the slit 2 to the slits 3 and 4. As seen from Fig. 4, the thermal fusion results in a pouch having an opening at the top and sealed at the bottom and sides. The pouch may now be filled with food such as powdered fruit juice or powdered coffee, followed by sealing of the upper opening by thermal fusion. Finally, a notch 8 is formed in a side edge of the pouch in alignment with the slits 3 and 4. The notch 8 facilitates initial tearing or cutting of the sealed pouch, which then can proceed along the slits 3 and 4, to open the sealed pouch.

When it is intended to prepare a drink using the powdered material sealed in the pouch, the upper end portion of the pouch is cut away first from the cutting portion 8 so as to provide an upper opening (or inlet). In this case, the overlapped slits 3 and 4 serve to provide a neat cutting of the upper end portion of the pouch, along the straight line. When pressed by fingers in the direction as shown by arrows in Fig. 5, the pouch having the upper opening is turned into a cup capable of standing firm on a flat plane even when filled with cold water or hot water for preparing a desired drink.

The thermally fused opposite side edge portions of the cup is about twice as thick as the circumferential wall of the cup, because the edge portions mentioned are prepared by thermally fusing the double-folded laminate of the inner and outer sheets. Naturally, the edge portions are more rigid than the circumferential wall. This rigidity facilitates the turning of the pouch into a cup when pressed by fingers. In addition, the edge portions act as a grip of the resultant cup. What is of high importance in this invention is that the bottom of the resultant cup is constituted by the inner sheet 6 alone. As described previously, the outer sheet 1 is provided with the central slit 2 and coated with silicone 5 around the slit 2. Because of the provision of the slit 2, the rigid outer sheet constitutes the circumferential wall portion alone of the resultant cup. In addition, the flexible inner sheet is not bonded to the outer sheet at the silicone-coated portion as described previously.

It follows that the bottom of the cup is constituted by the flexible inner sheet alone. Naturally, the bottom is of

a single wall structure and capable of readily spreading outward.

As described in detail, the pouch according to this invention is usable as a cup. No difficulty is involved in expanding the pouch into the shape of a cup. In addition, the resultant cup is capable of standing firm on a flat plane because the rigid outer sheet provides the periphery of the bottom of the cup. An additional merit to be noted is that the fused portions of the laminated outer and inner sheets perform a heat insulating function particularly when a hot water is poured into the cup, rendering it easier to hold the cup at the grip provided by the fused portions. Of course, the process of producing the pouch is very simple and, thus, suitable for a large scale production of the pouches.

In the embodiment described, a thick paper and a thin synthetic resin sheet or film were used as the outer sheet and the inner sheet, respectively. But, the materials of the sheets need not be restricted to those mentioned, provided that the inner sheet should be relatively flexible and the outer sheet should have a reasonable rigidity. The silicone used for preventing the bonding of the inner and outer sheets can also be replaced by another suitable substance depending on the materials actually used as the inner and outer sheets. In the embodiment described, the silicone was coated on the outer sheet in an elliptical shape. But, a substance for preventing the bonding of the sheets may be coated in another shape, for example, in a rectangular shape on the inner sheet, not on the outer sheet. Further, such a substance is not necessarily coated if the inner sheet and

the outer sheet are selectively fused thermally so as to leave a desired portion unfused.

Fig. 6 shows another embodiment of this invention. The pouch shown in Fig. 6 differs from the one previously described simply in that an outer sheet is provided with an elliptical opening at the center in contrast to the central slit 2. The pouch of this type is slightly inferior to the one previously described in the capability of standing firm or a flat plane, but is fully satisfactory in actual uses.

It is seen that the lower end of the outer sheet 1 presents a semicircular curve in the folded state of the pouch. When expanded to provide a cup, the lower ends of the fused portions alone are brought in direct contact with a flat plane. Needless to say, it is unnecessary to use a substance for preventing the bonding of the inner and outer sheets in the embodiment of Fig. 6.

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A pouch comprising a pair of semi-rigid sheets bonded to one surface of a flexible sheet to form with the flexible sheet a respective pair of laminate portions on opposite sides of a transverse fold line defined in the flexible sheet, a portion of the flexible sheet on each side of the fold line being free of any bond with the semi-rigid sheet, the laminate portions being folded about the fold line so that they face each other, with the semi-rigid sheet being on the outside, and the adjacent side edge portions of the facing laminate portions being bonded together.
2. A pouch as claimed in claim 1 wherein the flexible sheet is liquid impervious.
3. A pouch as claimed in claim 1 or 2, wherein the adjacent laminate portions are bonded to each other along adjacent edges thereof remote from the fold line to seal the interior of the pouch.
4. A pouch as claimed in any preceding claim, wherein the semi-rigid sheets are formed with slits extending opposite each other near the edges of the sheets remote from the fold line, and a notch is cut into at least one edge of the pouch so as to be aligned with the slits, for facilitating tearing along the slits.
5. A pouch as claimed in any preceding claim, wherein the edges of the semi-rigid sheets adjacent the fold line lie in a flat plane.
6. A pouch as claimed in any one of claims 1-4 wherein the edges of the semi-rigid sheets adjacent the fold line are curved towards the edges of the sheets remote from the fold line.
7. A pouch as claimed in any preceding claim, wherein the semi rigid sheets are made of a thick paper.
8. A method of making a pouch comprising the steps of bonding a pair of semi rigid sheets to one surface of a flexible sheet to form with the flexible sheet a respective

pair of laminate portions on opposite sides of a transverse fold line defined in the flexible sheet, a portion of the flexible sheet on each side of the fold line being free of any bond with the semi-rigid sheets, folding the laminate portions about the fold lines to form a folded article in which the laminate portions face each other and the semi rigid sheets are on the outside of the article, and bonding together the adjacent side edge portions of the facing laminate portions.

9. A method as claimed in claim 7, comprising the further step of placing a material into the pouch through an opening at one end of the pouch remote from the fold and bonding the edges adjacent the opening to seal the material in the pouch.

10. A method as claimed in claim 7 or claim 8, wherein the semi-rigid sheets are formed from a single blank, wherein the sheets are defined by adjacent halves of the blank which are separated from each other by an opening extending transversely of the blank.

11. A method as claimed in claim 10, wherein the opening in the blank is in the form of a narrow elongated slit and the said portion of the flexible sheet which is free of any bond is in the general form of an ellipse, the major axis of which extends along the slit.

12. A method as claimed in any one of claims 8-11, wherein an anti-bonding agent is applied to said portion of the flexible sheet, or the corresponding portions of the semi-rigid sheets, prior to bonding of the sheets, to prevent bonding at said portion of the flexible sheet.

13. A method as claimed in any one of claims 8-11, wherein the edges of the semi-rigid sheet adjacent the fold line in the flexible sheet are curved to expose a portion of the flexible sheet.

14. A pouch substantially as hereinbefore described with reference to either of the embodiments illustrated in the accompanying drawings.

15. A method of making a pouch, substantially as hereinbefore described with reference to either of the embodiments illustrated in the accompanying drawings.

Dated this 1st day of April, 1980

KINICHI KIMURA
By their Patent Attorney:



of GRIFFITH, HASSEL & FRAZER.

FIG. 1

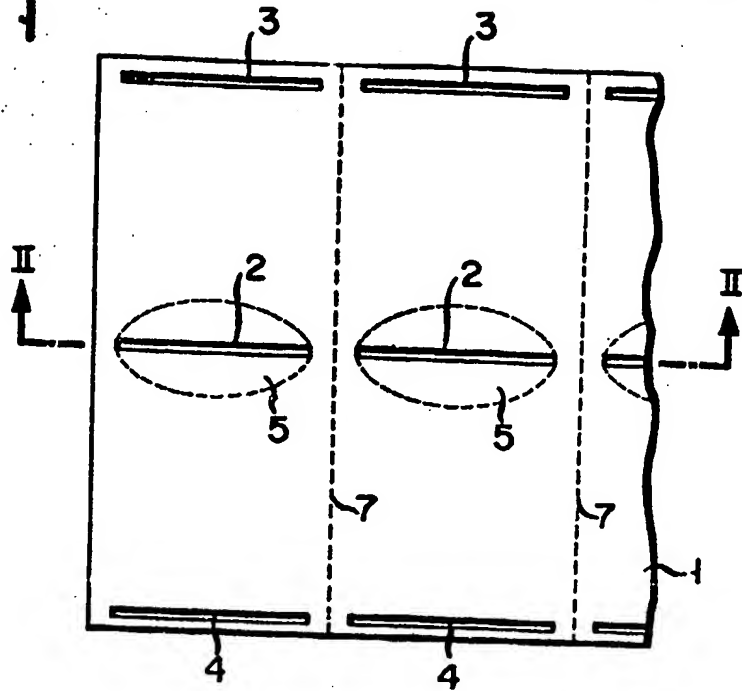


FIG. 2

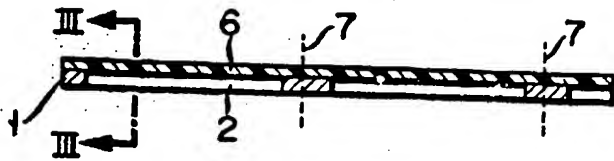


FIG. 3

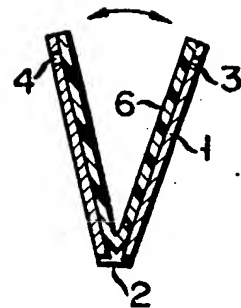


FIG. 4

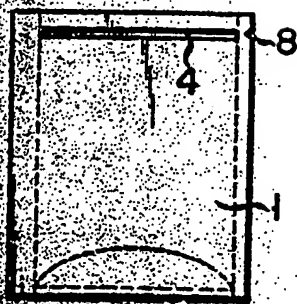


FIG. 5

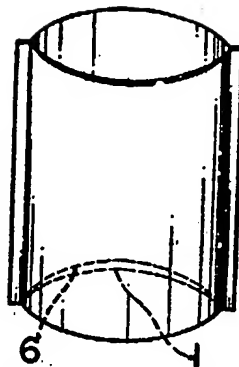
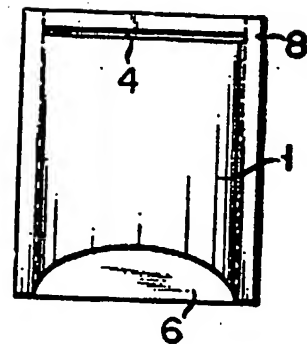


FIG. 6



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